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ABSTRACT

One of a series of sixteen knowledge transformation papers, this paper examines the problems, issues, and needs of vocational educators as they develop and implement individualized education programs (IEPs) for handicapped children. First, a general discussion of an IEP gives its five components (present level of educational performance, annual goals, educational services, initiation date and duration of such services, and evaluation criteria and procedures), guidelines for identification/diagnosis of individual needs, use of observation and testing, and its assessment of psychomotor, cognitive, and affective skills. Steps are listed for vocational educators to follow in IEP preparation as well as specifications for its implementation. Then, critical issues and problems are identified, such as lack of teacher preparation, insufficient funding, and nonsupportive attitudes. Areas requiring change to accommodate IEP in the vocational education delivery system are delineated, including flexible student scheduling, release time for teachers, and preservice and inservice teacher education. Various research and development projects related to IEP are described. To eliminate duplication and problems, it is recommended that information on both effective and ineffective development and implementation be disseminated. At the end, guidelines are provided for the successful development of an IEP by vocational educators. The three appendixes contain samples of an individualized education plan and chart and IEP forms. (ELG)

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DEVELOPMENT OF INDIVIDUALIZED EDUCATION PROGRAMS (IEPs) FOR THE HANDICAPPED IN VOCATIONAL EDUCATION

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FOREWORD

Unlike most federal education measures which take a "hands off" approach to directing state and local education agencies in how they are to take action, P. L. 94-142, the Education for All Handicapped Children Act, specifies in detail how the individualized education program (IEP) shall be developed at the local level. Prior to the enactment of P. L. 94-142, the responsibility for education of the handicapped was largely that of special educators. Responsibility for identifying and educating handicapped persons ages 3 to 18 and, by 1980, ages 3 to 21, has become the responsibility of all educators. P. L. 94-482, the 1976 Education Amendments, provides for that law's compatibility with the requirements of P. L. 94-142. Vocational educators are expected to be members of the IEP development team without the advantages of training for and experience with teaching vocational education to handicapped persons. This paper provides for extending the knowledge and understanding base of vocational educators in developing the IEP. In addition, it provides an awareness of the diversity of needs of handicapped persons and facilitates the first step of a series of steps which vocational educators should continue to pursue in this important responsibility, to provide free, public education to all individuals.

"Development of Individualized Education Programs (IEPs) for the Handicapped in Vocational Education" is one of a series of 16 papers produced during the first year of the National Center's knowledge transformation program. The 16 papers are concentrated in the four theme areas emphasized under the National Center contract: special needs subpopulations, sex fairness, planning, and evaluation in vocational education. The review and synthesis of research in each topic area is intended to communicate knowledge and suggest applications. Papers should be of interest to all vocational educators, including administrators, researchers, federal agency personnel, and the National Center staff.

The profession is indebted to Dr. Lorella A. McKinney and Ms. Donna M. Seay for their scholarship in preparing the paper. Recognition is also due Dr. Marc Hull, Vermont Division of Special Education, Dr. Alan Abeson, ERIC Clearinghouse for Gifted and Exceptional Children, and Mr. Dallas Ator, the National Center for Research in Vocational Education, for their critical review of the manuscript. Dr. Carol P. Kowle, research specialist, supervised the publication of the series. Ms. Jo-Ann Cherry coordinated editing and production.

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INTRODUCTION

Public Law 94-142, The Education for All Handicapped Children Act (1975), is frequently referred to as landmark legislation which assures by national mandate a free, appropriate public education to every handicapped individual, ages 3 to 18 by September 1, 1978, and 3 to 21 by September 1, 1980.

In the legislation handicapped children are defined as children who are:

> mentally retarded, hard of hearing, deaf, speech impaired, visually handicapped, seriously emotionally disturbed, orthopedically impaired, other health impaired, deaf-blind, multihandicapped, or as having specific learning disabilities, who because of those impairments need special education and related services. ("Education of Handicapped Children," Federal Register, August 23, 1977)

This law marks a major federal commitment and a culmination of the "quiet revolution." Abeson (1976) refers to this "quiet revolution" as the period "in which the battle cry for public policy advance changed from charitable solicitations to a declaration of rights" (p. 5).

Learning theory consistent with American philosophy of education since the time of John Dewey has referred frequently to the ideal of developing educational programs to meet individual needs. Variations of this ideal have taken the form of grouping by age, grouping by aptitude, team teaching, computer assisted instruction, and other individualized techniques. During the last two decades prior to 1975, elementary and secondary schools developed special education programs to accommodate those children having uniquely individual learning needs. Special education programs are specially designed instruction (at no cost to parents or guardians) to meet the unique needs of a handicapped child, including classroom instruction, instruction in physical education, home instruction, and instruction in hospitals and institutions. As a result, diagnostic and prescriptive educational programs combining evaluation and programming have emerged within special education.

It is in the context of meeting individual needs via free, appropriate education for all handicapped children that P. L. 94-142 was framed and passed. A clear progression is inherent in the law as Torres (1977) states:

> A child is handicapped because he or she requires special education and related services; special education is the specially designed instruction to meet that child's unique needs; and related services are those additional services necessary in order for the child to benefit from special educational instruction. (p. 4)

The Education Amendments of 1976 (P. L. 94-482) specify that the vocational education amendments are compatible with the requirements of P. L. 94-142. It

is clear, therefore, that vocational educators as well as other generalists and special educators have responsibility for providing free, appropriate public education for handicapped children through the age of 21.

Torres (1977) has outlined four major purposes of P. L. 94-142 as follows:

1. To guarantee the availability of special education programming to handicapped children and youth who require it

2. To assure fairness and appropriateness in decision making about the provision of special education to handicapped children and youth

3. To establish clear management and auditing requirements and procedures regarding special education at all levels of government

4. To financially assist the efforts of state and local government through the use of federal funds. (p. 4)

Public Law 94-142 mandates that an individualized education program be developed for each child in need of a special education and related services. The law further specifies the components to be included, the persons responsible for developing the program, and the nature of the involvement of IEP team members. This is to ensure the involvement of classroom teachers as team members in the educational planning and placement of handicapped children, since they are responsible for program delivery. Also, if the teacher is a partner in the IEP development, the student's program will better reflect a compatibility with the skills of the teacher involved, the learning environment for the instructional setting, supportive resources required to meet the individual's instructional needs, and the like.

Section 504 of the Rehabilitation Act of 1973 provides for the due process components of the IEP. In Section 504 the following is stated:

> No otherwise qualified handicapped individual in the United States...shall, solely by reason of his handicap, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance. ("Section 504 Regulation," Federal Register, May 4, 1977)

Responsibility for enforcement of Section 504 rests with HEW's Office for Civil Rights.

Additional services and resources from the federal level which may supplement those provided by public education are available through the Rehabilitation Services Commission and under the Comprehensive Employment and Training Act of 1973 (P. L. 93-203). Vocational educators are compelled, therefore, to become qualified contributors to the development and implementation of IEPs. They are also obligated to be capable monitors and evaluators of IEP results.

Since both P. L. 94-482 and P. L. 94-142 affect the development of the IEP for handicapped individuals in vocational education, this paper will address the specifics of the laws, provide an analysis of literature sources relating to the development and implementation of the IEP in vocational education, and show the implications of the findings for vocational education, vocational educators, and handicapped consumers at state and local levels. Although this report occurs relatively early in the required implementation schedule, nonetheless it should be beneficial to take an early look at obstacles, successes, issues, problems, relationships, and the like, to date, that may be helpful in clarifying needs to improve the development process.

THE INDIVIDUALIZED EDUCATION PROGRAM (IEP)

The tool for attaining the major purposes of P. L. 94-142 is the written individualized education program (IEP). The Education for All Handicapped Children Act (P. L. 94-142) establishes the requirement to provide each handicapped child (ages 3 to 18 by September 1978, and 3 to 21 by September 1980) in need of special education and related services with a written individualized education program.

Important concepts of the IEP should be clarified. "Individualized" means that the written program is relative to the educational needs of one person, not a class or group of students. "Education" specifically refers to special education and related services--those elements of the handicapped child's education that require specially designed instruction to meet the unique needs of the handicapped person. "Program" means a written statement of what educationally is to be provided the individual who is handicapped; it is not a plan or a set of general guidelines upon which a program will be developed.

Elements of the IEP

Components of an individualized education program for each handicapped person must include:

1. A statement of the present levels of educational performance of such child

2. A statement of annual goals, including short-term instructional objectives

3. A statement of the specific educational services to be provided to such child, and the extent to which such child will be able to participate in regular educational programs

4. The projected date for initiation and anticipated duration of such services

5. Appropriate objective criteria and evaluation procedures and schedules for determining, at least on an annual basis, whether instructional objectives are being achieved.

Educational Performance

The contents of the IEP relative to levels of educational performance for any given individual should be directed toward the one or more areas relevant to the nature of the individual's problem(s) or dysfunction(s). The law specifies that the IEP "must include a statement of the child's present levels of educational performance, including academic achievement, social adaptation, prevocational and vocational skills, psychomotor skills, and self-help skills" (see Proposed Federal Rules, Sec. 121a 225). Broadly interpreted, the statement of present levels of performance may include a description of "what a child can and cannot do in as many of the following areas as are appropriate to the nature of the child's problems, including academic achievement, social adaptation, prevocational and vocational skills, psychomotor skills, and self-help skills" (Blankenship, 1977, p.3). Blankenship points out that it would not seem necessary to describe the individual's performance in vocational skills if the dysfunction to be improved is classified as speech/language impairment and the individual is only receiving speech and language services if the individual is performing in all other areas satisfactorily, relative to his/her potential capability.

Annual Goals

Annual goals for each IEP are those performances to be attained by the handicapped individual at the end of the school year. These goal statements comprising related behaviors in a given area (for example, academic, speech/language, self-help, prevocational and vocational, motor, or social behaviors) should be made appropriate to an individual's needs and reasonably achievable in one year. The numbers of goals identified for each individual are in proportion to the numbers of needs identified for that individual. The numbers of needs are dependent upon the severity and type of dysfunction(s).

A short-term instructional objective statement includes these components:

1. The learner
2. An observable behavior
3. The conditions under which the objective is to be performed
4. The standard or criterion which identifies the minimum performance required to attain the objective

Short-term instructional objectives are statements, behavioral and measurable in nature, which represent intermediate steps between present level of performance of an individual in a goal area and the desired level or state of the annual goal for that individual.

Educational Services

A list of specific educational services is required for each handicapped individual and must be included in the IEP. The projected date for initiation and the anticipated duration of each service is also included. Those individuals providing supportive and supplementary services to handicapped individuals should be involved in the development and implementation of IEPs.

Participation in Regular Programs

Federal law requires that the IEP should indicate whether a handicapped individual should participate in regular education programs, the extent of that participation, and the specific type of program. The need for special and regular (including vocational) educators to work cooperatively is essential to ensure successful implementation of the IEP.

A very important element of the written IEP is the designation of the extent to which the handicapped individual will participate in regular educational settings. To the extent appropriate, handicapped persons in public or private or care facilities are to be educated with nonhandicapped individuals. Special classes or separate learning experiences or removal of the handicapped individual from the regular educational environment is appropriate only when the nature or the severity of the dysfunction is such that education cannot be achieved satisfactorily in regular classes, with supportive services and supplementary aids. The range of settings for learning which must be available to handicapped learners has become known as the "least restrictive alternative" or the "least restrictive environment." In other words, open access to programs is the right of all individuals, as appropriate. Torres (1977) states if the IEP for a person "calls for the provision of services in a setting not traditional for a child with a particular handicap or not presently available in the community, that setting must be created or located " (p. 7).

The statute specifies that the IEP will be developed in a meeting, it specifies who will be involved in that meeting and it sets forth the categories of content included in the written statement. Those required by legislation to be involved in the IEP development meeting are the following:

> A representative of the local education agency or an intermediate educational unit who shall be qualified to provide, or supervise the provision of specially designed instruction to meet the unique needs of handicapped children, the teacher, the parent or guardian of such child, and, whenever appropriate, such child. ("Education of Handicapped Children," Federal Register, August 23, 1977, Sec. 4a)

The preceding types of individuals are specified to ensure that those who

should be most knowledgeable about the child are involved cooperatively in making decisions relative to the educational services required to take care of the handicapped individual's well-being. For example, the local education agency administrator must facilitate resources to implement each IEP. Resources can be in the form of time, personnel, space, and monies. The administrator with his/her knowledge of community resources is an essential member of the IEP team to meet objectives and goals for each handicapped student.

The teacher, on the other hand, is the one team member who will consider the many factors and components of the learning experience as planning for instruction of the handicapped individual is employed. These factors may include the dynamics of the learner, the learning environment, the supportive resources required to meet instructional needs of the learner, the skills of the teacher, and the information interpreted by specialists, such as psychologists, therapists, social workers, physicians, and counselors. The importance of the parents in the development of the IEP cannot be underestimated, for parents "possess unique information about the development, nature, and needs of their child" (Torres, 1977, p. 6). Parents have long been recognized by educators as important partners with school personnel in the learning process. Public policy reaffirms that right of parents to be actively involved in decision making about the education of their children.

Whether by default or because of an erroneous assumption that students cannot contribute in a worthwhile manner to the decision making process, students historically and frequently have not been given the opportunity for involvement in their own educational placement decisions. Public Law 94-142 clearly indicates that students for whom an IEP is to be developed must have the opportunity to participate in their own program development, when appropriate.

The successful development and implementation of the individualized education program requires a commitment of school, parent, and child, supplemented by community resources. Through the involvement process, the requirements of the law may be understood by all, and those responsible collectively for providing access to appropriate instruction and learning experiences for handicapped individuals may acquire improved understanding of those individuals.

Specific IEP research is limited and empirical data on results are not available. Nevertheless, it can be beneficial for improved planning to synthesize the available knowledge at these early stages of implementation of the law. Although the legislation directs detailed and specific attention to IEP content and the development process, the criteria used to judge the adequacy of the IEP are not so clear-cut. Previous evaluations of individualized systems do provide some basic concepts for evaluation of the effectiveness of the IEP.

Criteria Used to Judge Adequacy

If the IEP is built upon certain basic concepts, it is likely that a judgment can be made on its adequacy. These basic concepts are the following:

1. Individual learning rates, styles, and motivating forces accommodated

2. Responsibility of learning shifted from teacher to learner

3. Accountable systematic management approach to accountable competency-based education provided

Authorities in the field of individualized instruction essentially subscribe to these same concepts although they often express them in differing ways. Mager (in Esbensen, 1968) states that the system is individualized if the student's characteristics assume a major part in the determination of objectives, materials, procedures, and time, and if the decisions about objectives and how to achieve them are based upon the individual student.

Practitioners concur that management by formative and summative evaluation is critical to a successful individualized program. For example, the concept of Formative Assessment and Management (FAM), as implemented in the Individualized Manpower Training System (IMTS), has been utilized in a number of school districts in producing effective results with some handicapped students. The original development of the IMTS was funded by the Department of Labor under the Manpower Development and Training Act of 1962 (P.L. 87-415), as amended. Parts of it were revised and expanded with monies provided by the Comprehensive Employment and Training Act of 1973 (P. L. 93-203). The term Formative Assessment and Management was derived from those evaluation and management procedures which are automatically operational when the IMTS is used as designed. The procedures referred to are diagnostic, formative, and summative feedback for management decisions and action (Seay, 1976).

The following description of what an IEP should do for the individual handicapped student suggests the criteria for judging adequacy in relation to the vocational training component of the IEP. The IEP should:

1. Be based on information derived from an exploratory program in which the student is (a) exposed to occupational information, hands-on experiences in real-world jobs or simulated work samples, and tours into business and industry or other sources of job opportunities; (b) administered interest inventories, psychological, aptitude, and academic achievement tests; and occupational performance checks for competencies; and (c) given personal vocational guidance. The purpose of the exploratory programs is to assist students in selecting achievable and realistic academic and career goals that have relevance and motivational value to the individual.

2. Result from diagnoses, or analyses, of what each individual knows and does not know in the areas vital to the achievement of vocational goals. The diagnoses should also encompass desirable or undesirable behaviors which relate to achieving the chosen goals. The environmental requirements for vocational education and/or on-the-job training should be considered as they pertain to an individual's capabilities.

3. Correct diagnosed deficiencies in entry level skills/knowledge through prevocational preparation--a logical sequence of learning activities in which individuals learn in their own learning style, at their own rate, and using their own background experiences. Their motivating contingencies and career goals should be taken into account.

4. Provide individuals with frequent feedback through evaluation of their progress and accomplishments. This feedback should be the type that can be used immediately to improve performance, rather than just a letter grade that fails to point out what specific improvements are needed.

5. Increase motivation by reducing the possibility of failure and by extinguishing peer comparisons.

6. Guide individual students and provide for various academic and vocational education areas in such a way that success can be achieved.

In brief, the adequacy of an IEP is determined primarily by the extent to which specific needs are identified and criteria for measuring achievement are stated.

PROCEDURES FOR IDENTIFICATION/DIAGNOSIS OF INDIVIDUAL NEEDS

The Education for All Handicapped Children Act states that the IEP must include a written statement of the present levels of educational performance of each student. The procedures used to determine these levels and to identify specific needs involve a team of evaluators. Team evaluation of the handicapped person's capabilities and interests is quite important to the process of developing and implementing the IEP. Individual responsibilities of team members are described by Higgins (1977, in A Primer on Individualized Education Programs for Handicapped Children) in the following guidelines:

> Each public agency responsible for determining that a child has a specific handicap shall use a team to evaluate the child.
>
> The official responsible for the administration of special education programs for handicapped children at the agency shall appoint the team members.
>
> The team must include the child's regular teacher or, if a child does not have a regular teacher, a regular classroom teacher licensed or certified by the state educational agency.
>
> At least one additional individual certified, licensed, or approved by the state education agency to conduct individual diagnostic examinations of children, such as a school psychologist, speech clinician, or remedial reading teacher, must be included on the team.

> The agency official shall choose team members who have knowledge of the procedures used in the evaluation of children.
>
> Each individual team member must be qualified to perform specific diagnostic tasks for which he or she is responsible.
>
> After the team has completed the evaluation, it shall meet at least once to discuss the evaluation and reach a conclusion as to whether the child has a specific handicapping condition. (p. 11)

When the preceding guidelines are applied to vocational education program situations in which IEPs for handicapped individuals are developed, the vocational instructor, vocational counselor, vocational evaluator, and the like should be IEP team members. Annual program goals and objectives for the individual are prepared by the IEP team through appropriate evaluation procedures, diagnoses, and interpretations of special needs. All diagnostic techniques utilized for determining educational program needs of the handicapped individual should be documented by team members, according to their areas of expertise.

A written report by the team members must indicate the individual's present level of performance. The information available from various assessment or diagnostic procedures should be compiled and analyzed so that long-range and short-term instructional objectives can be specified for each individual.

Exploration Experiences, Career Information, and Goal Setting

Establishing realistic career goals should be integral to the development of the IEP. Phillips (1976) has pointed out that "all individuals--handicapped and nonhandicapped--have the same needs and goals" (p. 19). Among these needs are those of selecting and preparing for vocations and avocations of the individual's choice; engaging in satisfying work; advancing in careers through upgrading of skills; living as independently as possible in the society; developing as leaders and as followers; having families; participating in educational programs and in the planning of services for them; and the like.

Many societal barriers prevent handicapped persons from identifying, establishing, and/or reaching their career and vocational goals. Such barriers may exist within the general society or public; within those providing services; among those who are handicapped, their families, and other advocates. Many barriers are the result of lack of awareness, sensitivity, and knowledge about needs and problems of handicapped persons. Often problems occur because nonhandicapped individuals are unaware that all handicaps are not visible. Furthermore, it is frequently not understood that a handicapped individual has many more capabilities than dysfunctions. Categories of barriers frequently associated with the failure to provide open access to educational programs are attitudes, competition for time and money, absence of leadership,

architecture, media, employment, transportation, labeling, insufficient planning, limited numbers of trained personnel, poor guidance services, unexplored research and poorly disseminated information, and administrative policies.

How can realistic career and vocational goals be established as an integral process in developing the IEP? Varieties of exploration activities and career information resources appropriate to needs and interests of the individual should be experienced by the handicapped individual. Through exploratory activities, such as "hands on" work experiences from work samples that include tasks representative of many kinds of jobs and occupational clusters, the student and the evaluator are provided a firm base from which to compare, contrast, and analyze realistically many occupational areas. Utilization of these work samples in addition to career information supplies information that should enable the individual and the vocational instructor to assess (a) the individual's work abilities, work quality, work behavior, and habits, (b) the individual's interests and aptitudes, and (c) the individual's vocational education needs. Concurrently, a motivational group process, personal counseling, and vocational guidance should be taking place. These three educational processes must be designed to encourage students to examine their values, strengths, weaknesses, and achievements which support the feeling of success. These should be positive activities, focusing on past and present successes that help the individual to recognize and apply useful, pertinent information in setting realistic career goals. Whether or not the goals set for individuals are achievable depends largely upon accomplishments and motivation.

Whether or not students reach their career goals is also dependent on the availability of the jobs and their ability to travel to the job location. These problems should be considered prior to the final goal selection. Plue (1972) emphasizes that:

> A survey of the community is important in that it gives usable information for training....Some knowledge of what people are doing, job trends, the social climate, and travel are crucial aspects of job getting and holding. (p. 182)

Up-to-date and accurate knowledge of local, regional, and national labor economics is essential information to a vocational guidance counselor. Co-operation and understanding among employers can make a difference in whether or not handicapped students are given an opportunity to work in their chosen occupational area.

All of these factors influence decisions made during the exploratory and goal setting period; therefore, they should not be overlooked or neglected any more than other aspects of identifying needs.

OBSERVATION AND TESTING

Assessment of the student's strengths and weaknesses is important in the establishment of annual goals and short-term objectives. The methods used for this purpose include observation of the individual during various activities and the analysis of test data, as appropriate. Preliminary observations of behavior, appearance, and motivational forces contribute to the development of the initial phase of the IEP. Ongoing observations should be used to improve the IEP so that it remains relevant and viable.

Data from several types of tests, surveys, or inventories should be used to obtain as much definitive information as possible in order to determine student capabilities. Both standardized and criterion-referenced tests should be administered, not as "screening out" devices, but as a means of specifying needs and determining capabilities. As a minimum, testing should reveal academic achievement levels in reading, language, and arithmetic. Data relevant to an individual's personal characteristics, interests, and attitudes are also essential to goal setting.

Alternative systems to intelligence tests for describing behavioral levels of functioning of the individual have been demanded by parents and educators. McCormack (1976) points out this need for functional assessment as an ongoing process:

> The need for functional assessment detailing a child's strengths and weaknesses has become obvious as special educators have been required by the courts or State and/or Federal regulations to develop individually appropriate instructional objectives/methods and materials, while at the same time they facilitate the communication between those responsible for the student's education (parents, teachers, administrators, etc.). (p. 7)

The Educational Evaluation and Planning Package, an alternative system, has been designed to minimize shortcomings of the various assessment instruments identified in the literature. It is intended to be practical in nature and easily used within acceptable time limitations by the classroom teacher or parent.

The assessment center concept for diagnosing capabilities of handicapped individuals to determine appropriate placement in vocational education programs is operational in a number of states. Most standardized instruments, such as Singer, ValPar, JEVS, and the like, are limited in their applicability for assessment of the capabilities of the handicapped person. McKinney (1975) points out that many assessment centers develop work sample procedures appropriate for determining:

> the student's interests, performance/behaviors related to occupational exploration; social, emotional, and intellectual growth, etc.; in order to assist the student in making his/her career choice. (p. 30)

Competency-based performance tests related to the knowledge and skills required to achieve performance objectives in vocational education courses should be used to identify what will be prescribed. In many cases, these performance tests will reveal abilities not identified by standardized tests. At the same time, barriers to the achievement of objectives will be disclosed. These findings become the justification for intervention in order to provide whatever assistance is necessary to overcome these barriers. Examples of barriers may vary from not knowing how to use tools safely to the fear of heights. If appropriate assistance is not available or possible, a modification or change of career goals may be necessary. A thorough diagnostic process can prevent many mistakes in developing the IEP for any given individual. For these reasons, assessment information from other specialists, such as social workers, physicians, psychologists, occupational or physical therapists, and speech clinicians, should be accumulated.

Hull, Parrish, and Hill (1977) state that "one of the first steps in the development of the IEP is the translating of assessment data into comprehensive performance statements" (p. 28). Performance statements related to prevocational and vocational skill development are the responsibility of the vocational teacher, who should first analyze the diagnostic results in relation to the student's career goals.

Diagnosis Related to Determination of Career Goals

Proper analysis of diagnostic results cannot be accomplished without a list of the course objectives in the psychomotor, cognitive, and affective domains. With this list Hull and associates point out that "the student's present level of functioning can then be stated as a matter of those specific skills the student presently has and those skills which will need special consideration and/or special support services" (p. 29).

An analysis of aptitude test and interest inventory data may produce results too general to translate into specific needs. Data that do relate to proposed goals and objectives should be considered in developing the IEP. For example, the result of an aptitude test may reveal extremely poor muscular coordination for the individual and indicate the need for additional practice time in a typing course.

General information pertaining to interest areas or levels of performance outside the realm of the career goals do not need to be reported in the IEP, but they should be retained in the student's file in case changes become necessary in his/her career goals. For example, a student may decide after initial development of his/her IEP that, as an occupation, selling has more appeal than welding. If a review of the student's file suggests an interest in working with people and an aptitude toward writing sales receipts, the

change of the career goal to selling would be supported. At that time, this related interest and aptitude information should be reported on the IEP. By retaining the results of all tests and observations, the vocational teacher has a reference file that can supply useful data for future action. In addition, a central file which retains all original data should be established. This file should be available to all team members responsible for the development of an IEP.

Vocational educators must recognize that diagnosing is not a one-time task, but is a continuous process using assessment information from multiple sources in the instructional process. Information collected from all IEP team members--teachers, parents, the student, counselors, and members of the community as appropriate--will form the basis for refinement and changes in the IEP, thus improving its reliability and validity. One of the advantages of the team approach in the development of the IEP is the pooling of knowledge and expertise of individuals representing a multidisciplinary knowledge base.

Higgins (1977) suggests precautions which should be observed when individual functioning levels are assessed:

> Assessments should be culturally and linguistically unbiased. The assessment process should be adapted to the specific cultural and linguistic conditions of each child. Assessments should take into account the different cultural experiences that each student brings to school. The assessment process should provide alternative and flexible procedures necessary to identify any cultural experiences that affect educational performance.
>
> Procedures and instruments must be adapted for those handicapped students who cannot successfully perform with traditional materials. Adapted procedures must identify strengths and indicate performance level. (p. 10)

Since the parents are participating members of the IEP team, necessary adaptations must be made also to accommodate them. Assessment data must be reported to them in their native language and/or in a form that they can understand. Provisions must be made to communicate with deaf and blind students and parents. Diagnostic labels and professional jargon must be eliminated, and understandable interpretations of how professional recommendations evolved must be given to the parents.

Diagnosis in the Psychomotor Domain

In order to prepare a statement for the IEP pertaining to psychomotor skills, a vocational teacher must ascertain what skills a student already has and what skills must be developed. This determination is made by comparing the observed competencies exhibited by the student with those skills expected for the vocational course. By analyzing the differences between the two, a teacher can recognize the areas in which the student needs assistance. Answers

to the following questions will guide the vocational teacher in identifying these areas and provide a basis for prescribing instruction in psychomotor skills.

1. Does the student take necessary safety precautions in performing each task?

2. Are the proper tools used correctly for each task?

3. Are correct procedures and materials used in performing each task?

4. Is the performance of each task as efficient and effective as it should be?

The instructor should identify minimal competencies required for entry into a vocational education course. These competencies serve as a yardstick against which the student's abilities and interest can be compared. The IEP statement can indicate the student's present competency level and the specific deficiencies to be corrected prior to enrolling or during a probationary period in the course.

Implementation of the IEP should be the time to initiate proper methods of identifying areas in which instruction and practice are needed for the satisfactory performance of course objectives. Often, a student's skill demonstration during the performance check will eliminate the necessity to provide instruction in a particular competency area. When this occurs, the student should be given credit for the achievement and moved to the next instructional sequence.

Diagnosis in the Cognitive Domain

Vocational education competencies in the cognitive domain are the knowledge and understandings underlying appropriate performance of tasks and skills, work processes, production techniques, tools, and so on. Criterion-referenced tests should be administered to determine whether the students have the necessary related knowledge to enter and progress in the vocational course or program. It would not be practicable to test a student on all related knowledge involved in the instructional program.

Related knowledge may embrace the areas of language, mathematics, physics, safety, and theory. Prerequisite knowledge pertaining to achievement of course objectives may involve academic subject matter, such as reading, spelling, arithmetic, and punctuation. Whatever is identified as a need for entry must be pinpointed. If a student wants to become a mechanical draftsman, for example, and one prerequisite related knowledge is computing fractions, it would not be specific enough to indicate a need for arithmetic. It would be preferable to state that the student was able to add and subtract fractions but unable to multiply or divide them.

Diagnosis in the Affective Domain

Attitudes, feelings, emotions, and social behaviors are all important to a person's attainment of career goals. Accordingly, his/her current status should be determined by observing actions and reactions in instructional situations and personal relationships. Answers to attitude and personality type questionnaires or tests furnish indicators that serve as leads in diagnosing strengths and weaknesses.

Vocational instructors will be somewhat limited in making informational contributions to the initial development of the IEP, since they have only recently begun to work with the students. The more experience vocational educators have working cooperatively with parents and special education teachers, identifying individual needs, and analyzing interest, strengths, and weaknesses, the more significant contributions they can make to IEP development. At the same time, special educators and parents should gain increased understanding of performance skills and understandings required in vocational education programs and courses. Vocational education IEP team members should be watchful for additional information which may contribute to or necessitate change in the IEP from its initial development.

PRESCRIBING VOCATIONAL EDUCATION IN THE IEP

As a member of the IEP development team, the vocational teacher should help prepare a summary of findings that influence the student's vocational prescription. That prescription is a statement of annual goals and short-term objectives. The student's present level of functioning in prevocational and vocational education must be taken into account. Hull et al. (1977) elaborate by stating:

> They (goal statements) should represent definite and realistic learning challenges and should focus on the attainment of skills of practical benefit to adult functioning. The annual goals should be attainable within a specified period of time and should represent the planning group's best estimate of what the child should accomplish within one year. It is important that the goals and objectives be measurable, hence observable in a specific way. (p. 29)

In prescribing goals and objectives for prevocational and vocational education, the teacher requires assessment data that indicate the individual's present achievements in the psychomotor, cognitive, and affective domains. A list of course performance objectives and entry level requirements must also be available. The teacher then can describe the annual goal in general terms and specify the objectives that need to be achieved. Environmental requirements for a particular handicap should be noted so that modification of

facilities, equipment, or support services can be a part of the prescription.

An effort must be made to explain how to prescribe programs that prepare handicapped persons for employment. In prescribing programs leading to employment, five components should be considered:

1. Vocational course expectations
2. Prerequisite skills and knowledge
3. Living skills
4. Supervised work experience
5. Employability and social behaviors

Employability skills and knowledge related to searching, applying, being interviewed for a job, as well as retaining a job and advancing in a job, should be included in the IEP development. Goals and objectives specifying on-the-job training in a cooperative or apprenticeship program are also desirable components.

Regardless of the type of instructional delivery system chosen to meet minimal requirements for developing functional individualized education programs in vocational education, the IEP teams should consider the following basic principles:

1. Identify competencies expected for successful performance in a course or program

2. Determine the individual needs--capabilities, interests, readiness, and the like--of the person for whom the IEP is being developed

3. Establish realistic annual goals and specific objectives based on consideration of what is needed to develop appropriate skills, knowledge, and performance to attain those required competencies

4. Identify and provide those supportive or supplemental services which will enable the individual to reach the goals and objectives prescribed

5. Establish flexible scheduling to provide for individual learning patterns

6. Establish ongoing evaluation as an integral part of the learning/performance process

7. Communicate regularly with the individual learner, parents, and other IEP team members to understand progress and to adjust, as necessary, the means or strategies for reaching established goals and objectives

STEPS FOR COMPLETING THE IEP

Thus far, the reader has been heralded with requirements for a free, public education for all handicapped children, components of and legislative authority for the IEP, responsibilities for development of the IEP, and general principles for carrying out the process. Whether one reacts to the process as unwarranted intrusion by the federal government, a much needed mandate long overdue, something which is needed for all youth in the educational system, or a kind of logistical, confused state of affairs, the intent herein is to provide assistance to the reader to be informed and to understand applications of the process.

In order to provide organization and order to the development process, the following steps are suggested as an approach to preparing the IEP:

1. Convene an appropriately constituted IEP committee. Who should take this responsibility? A representative of the school district should identify the individuals who best know the student for whom the IEP is being developed. Those identified earlier are the administrator, teachers (regular and special), one or both parents, the student, and all others who within the special circumstances of the student, are considered to provide invaluable assistance in the development of the IEP. If parent or guardian involvement presents a problem, P. L. 94-142 regulations recommend that schools should carefully document facts relating to the matter, such as: to keep detailed records of telephone calls to parents, copies of correspondence with parents and written replies, logs of home visitations, and assurances that interpreters or translators are used as appropriate. The convener of the IEP committee planning meetings should designate the place and time for the conference which is most nearly mutually convenient for all.

2. List present levels of student performance with respect to both strengths and weaknesses. Collection of all diagnostic data relative to the student under consideration should be available to the committee. Review and discussion of the student assessment information by the IEP committee should follow. Levels of performance should then be written for that student.

3. Specify annual goals; rank them. Goals should be based upon the student's needs and interests and educational expectations; their priorities should be established through consensus of parents, teachers, and other panel members. The committee has the responsibility to establish goals that are attainable in one year.

4. Specify short-term objectives. For each annual goal, specific objectives should be stated. It is recommended that objectives should be criterion-referenced for measuring success in performance; for example, Susan can assemble two sets of wired components of a motor and does the procedure correctly ninety percent of the time. Time periods for the length of

involvement with short-term objectives are flexible, depending upon needs of the student and/or committee recommendations. They may be weekly, monthly, or quarterly.

5. Specify services and resources needed and the person(s) responsible for those prescribed. Services and resources may include tutoring, special instructional materials, special equipment, media, speech therapy, skill development as in reading, mathematics or communications, occupational therapy, nursing services, social services, transportation, and counseling.

6. Allocate time for objectives, resources, and services, and specify any given learning environment. Beginning and ending dates for objectives, resources, and services should be designated. Dates should be established for review of student progress toward annual goals and short-term objectives. The committee could establish dates for review when short-term objectives are to be attained.

   Estimates of the percent of the student's time to be engaged with given services, resources, or objectives should be provided. Total percentages of time cannot exceed 100 percent of the student's time available.

   The committee should designate in the IEP whether experiences (objectives, resources, services) are provided in the regular instructional environment (classes) or in a modified instructional environment.

7. Specify criteria for evaluation and success. The committee should state criteria for success. Established criteria should be related to each of the established goals and short-term objectives. The evaluation process should assist in determining the need to modify goals and objectives.

8. Recommend student placement. The committee's crucial task is to make the recommendation for placement of the student. Placement should always be based upon consideration of where the student can most profitably receive the specified services and resources.

The committee can choose to specify how the IEP suggestions should be implemented; however, this is an optional choice. If care is exercised in the identification of committee membership, the committee should be extremely knowledgeable about the student. Therefore, the committee should share its ideas about and knowledge of the student.

A number of the IEP formats for recording the decisions and recommendations of the IEP committee members are found in the literature. (See samples of selected ones in Appendices A, B, and C.) A minimal requirement of the form is to include that substance or those requirements of the federal and state laws and regulations. Forms should be designed to facilitate the work of the IEP committee. According to Blankenship (1977), "The point to keep in mind is that the process of developing a child's IEP is more important than designing a form" (p. 22).

IMPLEMENTATION OF AN IEP

As stated previously, the IEP committee has the responsibility of indicating: (a) the extent to which each individual can participate in the regular educational programs, (b) the projected beginning and ending dates for the prescribed services, and (c) the evaluation criteria and procedures, including a schedule for determining the objectives achieved. These specifications of the IEP are actual direction given for its implementation.

Learning Environment

Whenever possible, the student is scheduled in the regular vocational courses even though this might require minor modifications of the facilities or some special assistance from teachers other than the vocational instructor, for example, special education teacher, industrial arts teacher, and speech teacher. Any basic academic deficiencies in reading, arithmetic, and/or language would require a schedule for those areas in addition to the vocational course. The schedule might be available on an individual basis or for groups of individuals regularly scheduled. Once a student has been placed in a vocational education program, the vocational education instructor must take responsibility for the performance skills designated in IEP goals and objectives.

Allotment of Time for Completion

The length of time scheduled for the student to complete the prescribed learning experiences is only estimated. The time must be flexible among individuals, since one instructional feature of individualized education is that learners are able to proceed at their own rates. These rates vary among persons for a number of reasons, such as the type of handicap, intelligence, present achievement level, study habits, attention span, motivation, and the degree of social pressures. The committee must make its best estimate of the length of time required for the student to complete given goals and objectives as well as the amount of time needed to participate in certain related experiences (resources and/or services).

Ongoing Evaluation

Bloom, Hastings, and Madaus in Impellitteri and Finch (1971) distinguish three types of evaluation:

> Diagnostic, formative, and summative....The major distinction between the types of evaluation as mentioned herein is upon their differential purposes. The purpose of diagnostic evaluation is to determine a student's readiness for a specified set of learning

> tasks, and to determine an appropriate point for a student's entry into that particular set of learning tasks. Formative evaluation, on the other hand, is conceived to be a monitoring device to determine how far the student has progressed in mastering certain learning tasks, to assess the nature of the remaining tasks within the predetermined set, and to prescribe alternative instructional approaches to help students in mastering those tasks. Summative evaluation is used to determine the degree of which a student has mastered the complete set of objectives upon which the instructional unit was based, for the purpose of either grading the student or determining the degree of effectiveness of the instruction. (p. 16)

Instructional management decisions and actions are usually based upon the results of evaluating the learner's progress. In order to evaluate progress in a vocational education course or program, objectives should be written in performance terms, and criteria for determining student success must be stated. According to Nee (1976), "The content of the performance objectives is based upon the necessary skills and knowledge required to function successfully in a given occupation" (p. 5). (See examples of vocational education short-term objectives which are performance-based and criterion-referenced in Appendices B and C.)

Criteria used for evaluation are those statements of observable behaviors that indicate successful achievement of the performance objectives. Methods of evaluating may include skill demonstration, paper and pencil tests of knowledge, and oral tests and/or interviews with students. Vocational and academic instructors and the employer or supervisor are responsible for evaluating the student's progress. Their evaluative input on a formative basis will be used to manage and motivate the learner. Formative feedback then becomes the basis for corrective action in an individualized education program.

Summative evaluation should produce evidence of a student's success if the formative evaluations and management procedures have been periodically employed to ensure progress at the projected rate. Formative evaluations also permit realistic adjustments to the original schedule stated in the IEP for the achievement of short-term objectives and long-range goals. If short-term objectives are not being achieved according to the projected IEP schedule, the time should be adjusted to a range that will approximately accommodate the individual's ability to advance.

Phelps and Wentling (1977) state that:

> After the initial diagnosis and placement is made there is a continuing need to monitor the learner's progress and make necessary adjustments in (1) the identification of his/her learning problems and placement, (2) the learner's educational needs assessment, and/or (3) the instructional techniques being used. Making decisions relative to any of the previously mentioned points is contingent upon the availability of accurate and current data on the learner's level of performance. (p. 21)

Unfortunately, these data are not always available initially. Problems and needs related to identification and evaluation are frequently generated during the implementation of the IEP.

CRITICAL ISSUES RELATED TO IEP DEVELOPMENT

Several surveys have identified the IEP as one of the major problems encountered in implementing P.L. 94-142. Probably the most critical issue concerning the IEP is the lack of vocational education personnel who have the knowledge and competence necessary to (a) identify, assess, and interpret learners' special needs; (b) develop, implement, monitor, and evaluate the IEP, and (c) effectively involve a team, which includes parents in developing the IEP. A crucial aspect of this problem is the fact that little is known about the time effort, and competencies required to develop vocational education personnel who can successfully perform tasks related to the IEP.

Another vital issue relates to the limited amount of time and money available to prepare personnel, facilities, and instructional materials to adequately serve handicapped persons. This is a critical point in most states because vocational education agencies have not developed the necessary state and local mechanisms for the coordination and cooperation required to develop and implement IEPs.

Some personnel issues relate to the role vocational education will be assigned. Decisions need to be made as to who will be involved and how they will be involved in developing the individualized program. In some cases, certain staff members are assigned the assessment and eligibility responsibilities and others are given the placement functions. In some states, the laws mandate a minimum number and type of personnel (Torres, 1977).

How to assure the involvement of parents in the development of IEPs is another important issue. Some parents want to be involved; others evidently fail to recognize the important role they play; some may lack the background knowledge to participate and to understand the terminology and procedures used by professionals on the IEP team.

Deciding how public school personnel will share IEP responsibilities with private schools is an issue that must be settled in each local area. This decision is critical to the establishment of an effective administrative process for the development of IEPs (Torres, 1977). The home school district is held responsible for the development of the IEP. One or more representatives of the private special program/school should be integrally involved on the committee responsible for the development of the IEP.

Teachers in local schools have been frustrated because their classrooms are already overloaded and additional students with special needs are referred to them. Not only are the teachers stretched beyond their human capacity to adequately serve the additional students, but they also lack the appropriate

instructional materials. The question, in such cases, is "How can they possibly provide instruction that is unique to the student's special needs?"

Other critical issues that pertain to accountability include monitoring and evaluation procedures that can be expected from local, state, and federal agencies. Public Law 94-142 does not require a public agency or the teacher to be held accountable if an individual does not progress at a specified rate, but it does state that special education and related services must be provided.

Federal versus local control of education is an issue implied by the specificity of P. L. 94-142 which determines that local districts shall develop IEPs in a particular manner. Details of the legislation which directs local education districts are pointed out by Hull, Parrish, and Hill (1977):

> Under the Act, local districts must ensure their respective state education agencies that minimal provisions for meeting the needs of the handicapped are followed. One of the key provisions that must be made for each handicapped child is the development and periodic review of an Individualized Education Program (IEP).
>
> The IEP requirement is regarded by many advocates of aid for the handicapped as one of the most significant components of P.L. 94-142. This is because the IEP requirement in the Act, more than any other part of the Act, holds the local district accountable for the achievements of handicapped students. (p. 26)

A well developed accountability process should include thorough evaluations to ensure future improvements in IEPs. In other words, the evaluation data should be complete enough to support planning for the future, or suggest immediate changes in order to improve services.

Several research studies addressed the issue of the time and effort required to develop and evaluate the IEPs. Most opinions supported the IEP concept. As Kolstoe (1977) states, "The potential good (of IEPs) far outweighs the burden placed on teachers in my judgment. I support them if for no other reason than the potential for good programs is so much better with IEPs than without them" (p. 15).

PROBLEMS AND NEEDS IN IEP DEVELOPMENT AND IMPLEMENTATION

Efforts to develop and use IEPs have revealed several types of problems and needs that can interfere with successful implementation in vocational programs. Some of these include:

1. Identification and assessment of special needs learners (Phelps and Wentling, 1977, p. 20)

2. Lack of involvement of the vocational instructor in the development of the IEP

3. Scheduling of meetings at an incovenient time for parents and others who are responsible for contributing information that determines the content of the IEP (Scherr, 1977, p. 32)

4. Inappropriate instructional materials and equipment for specific needs identified in the various categories of special needs

5. Lack of teachers with the competencies required for developing and implementing individualized instruction in vocational education (Nee, 1976, p. 15)

6. Lack of teacher training institutions providing preparation for curriculum development activities directly related to the detailed organization, planning, and implementation of individualized education programs (Nee, 1976, p. 15)

7. Insufficient data on personnel needs and teacher training programs in the area of vocational education for the handicapped (Rosenberg and Nathanson, 1978, p. 29)

8. Inadequate and improper use of individualized teaching strategies and techniques appropriate for the goals and objectives stated for individuals with differing handicapped conditions

9. Scarcity of vocational course curriculum outlines that have performance objectives which are measurable or are broken down into tasks that can be handled by the handicapped

10. Ineffective delivery systems for IEPs in vocational education

11. Integration of handicapped students into programs with an inadequate ratio of staff members to students

12. Insufficient monies to purchase appropriate materials and equipment and to hire qualified staff (Nee, 1976, p. 16)

13. Superficial training which lacks realistic job training for the actual job settings (Godia, 1978, p. 29)

14. Inability of parents to understand the professional jargon or technical language used in IEPs (Norton, 1977, p. 29)

15. Nonsupportive attitudes from teachers because they fear time demands for writing IEPs and documenting progress will take away from instructional time, but at the same time hold them accountable for the learner's progress (Norton, 1977, p. 15)

16. Developing IEPs but not using them (Norton, 1977, p. 23)

17. Misunderstandings between federal, state, and local agency personnel concerning IEP monitoring and standardization expectations (Norton, 1977, p. 29)

Reports from several research and development and practical application projects have also indicated a number of improvements and changes that should be made in vocational education in order to accommodate the special needs student. In selected cases, procedures for implementing these improvements and changes have been included. For example, vocational educators in Fairfax County, Virginia, have been training handicapped students (except the most severely handicapped) in a building trades program. Handicapped students actually participate in the construction of residential and commercial-type buildings. Most of these high school students are assigned all day to a work-site where portable classrooms house English and social studies instruction. A reading specialist is also available.

An occupational training park, part of the building trades program, will provide for expansion of the number of courses offered by 1979. The additional courses, which will be offered to the handicapped as well as to other students, will include landscaping and horticulture, small gasoline engine repair, welding, plumbing, and wood products manufacturing. The number of training opportunities for handicapped students in the distributive, business, and trade and industrial coop programs in Fairfax County will also be increased. A teacher-coordinator who has background knowledge and skills in training handicapped students will be responsible for these students and for orienting the on-the-job supervisor to their special needs.

As a first step in the expansion of on-the-job training experiences, the coordinator of the Fairfax County program plans to place the handicapped students with two public agencies. The coordinator will have one year to develop a set of guidelines and operating procedures. Ongoing vocational programs will also be revised according to an evaluation of job openings and a list of separate tasks which handicapped students can learn to perform (Godia, 1978). In this way, programs in vocational education for both handicapped and nonhandicapped students in Fairfax County are expanding. At the same time the extension of support services has increased training and learning opportunities for handicapped persons.

The special education flow chart (shown on pp. 26-27) developed by Education Turnkey Systems, Inc. (Blaschke, 1977), illustrates the flow of procedures for referral, development if the IEP, placement, evaluation, and appeal process performed by different individuals and agencies responsible for serving the handicapped. The problems listed adjacent to the chart were pinpointed by an analysis of responses from personnel in the state of Maryland involved in these activities.

Plue (1972), in developing IEPs in vocational education for the educable mentally retarded (EMR), has cited three groups of factors which are also applicable to all special needs students. These factors relate to (1) social-

emotional dimensions, (2) psychomotor dimensions, and (3) society. The integral factors relating to social-emotional dimensions of an individual's total development are as follows:

1. Personal appearance and good health practices.

2. The extent of support from family and relatives.

3. Personal and social skills.

4. General social skills associated with an environmental milieu. EMR individuals seem to lack the ability to benefit from experiences.

5. Certain factors of emotionality in need of modification such as laughing inappropriately.

Factors relating to psychomotor dimensions integral to an individual's total development are the following:

1. Intelligence not as an overriding factor in unskilled, semiskilled, or service occupations.

2. Work aptitudes relating to various kinds of occupations which are related to vocational success. Additional motivation and practice are required for EMR individuals.

3. The work-sample approach which tends to provide improved training method application.

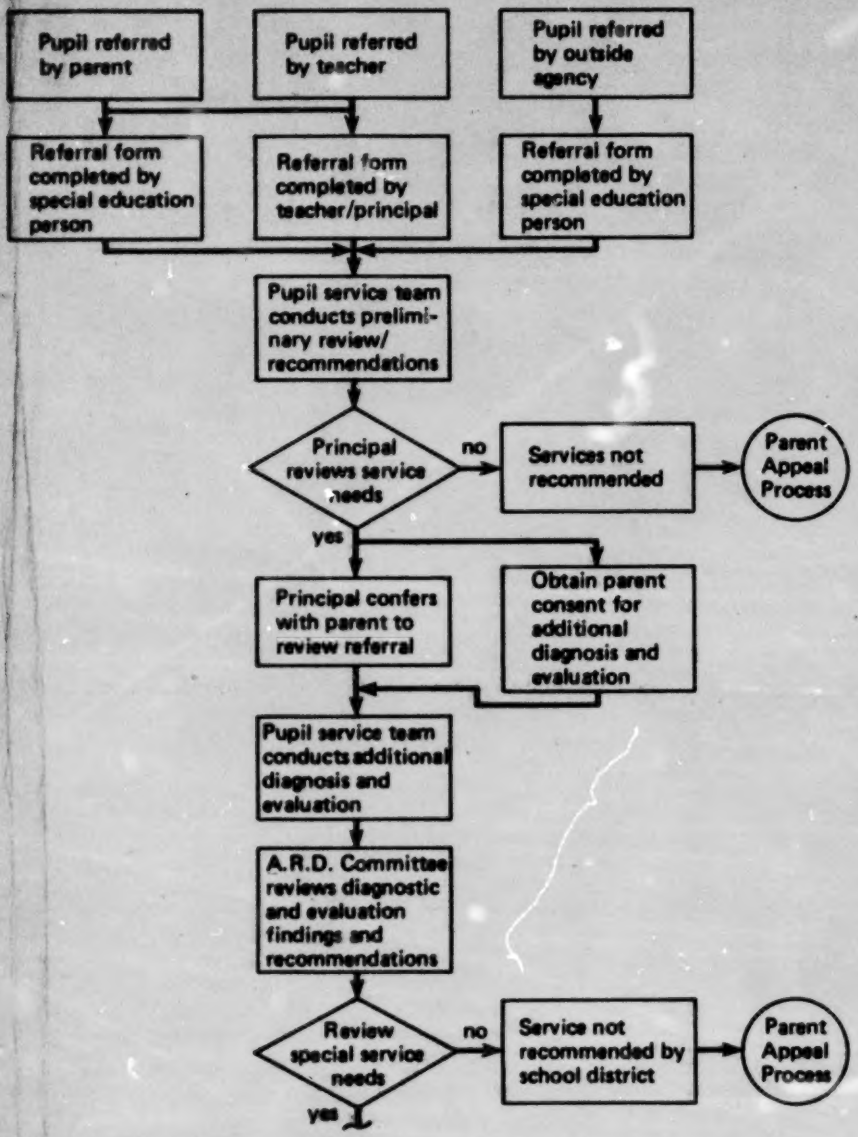
The factors relating to society that influence planning of vocational programs for the EMR individual are listed below:

1. A survey of the community, such as what people are doing, job trends, the social climate, travel and employment requirements, laws, and unions.

2. Special training programs, such as cooperative programs with rehabilitation and/or vocational agencies.

A project conducted by the South Carolina State Department of Education produced a document that provides the framework and resources which can be utilized by teachers in special fields in the preparation and implementation of IEPs for the orthopedically handicapped. Fusco (1977) presents IEP activities in table form and includes the following information: (1) developmental level, such as primary, intermediate, or secondary; (2) degree of physical handicap (moderate, severe); (3) behavioral objectives; (4) enabling activities; (5) facilities, materials, equipment modification or adaptations; and (6) other materials and references. The content areas involved are: language arts, mathematics, social studies, science, sensory experiences, creative arts, prevocational/vocational education, adapted physical education, self-help/self-concept development, life experiences, and leisure time activities.

FLOW CHART
SPECIAL SERVICES INFORMATION SYSTEM


Pupil referred by parent
Pupil referred by teacher
Pupil referred by outside agency
Referral form completed by special education person
Referral form completed by teacher/principal
Referral form completed by special education person
Pupil service team conducts preliminary review/ recommendations
Principal reviews service needs
no
Services not recommended
Parent Appeal Process
yes
Principal confers with parent to review referral
Obtain parent consent for additional diagnosis and evaluation
Pupil service team conducts additional diagnosis and evaluation
A.R.D. Committee reviews diagnostic and evaluation findings and recommendations
Review special service needs
no
Service not recommended by school district
Parent Appeal Process
yes

1. Teacher not familiar with referral process
2. Teacher discourages referral process

3. New entry form initiated too early, will become lost

4. Incorrect service needs emphasized
5. Pupil service team not trained

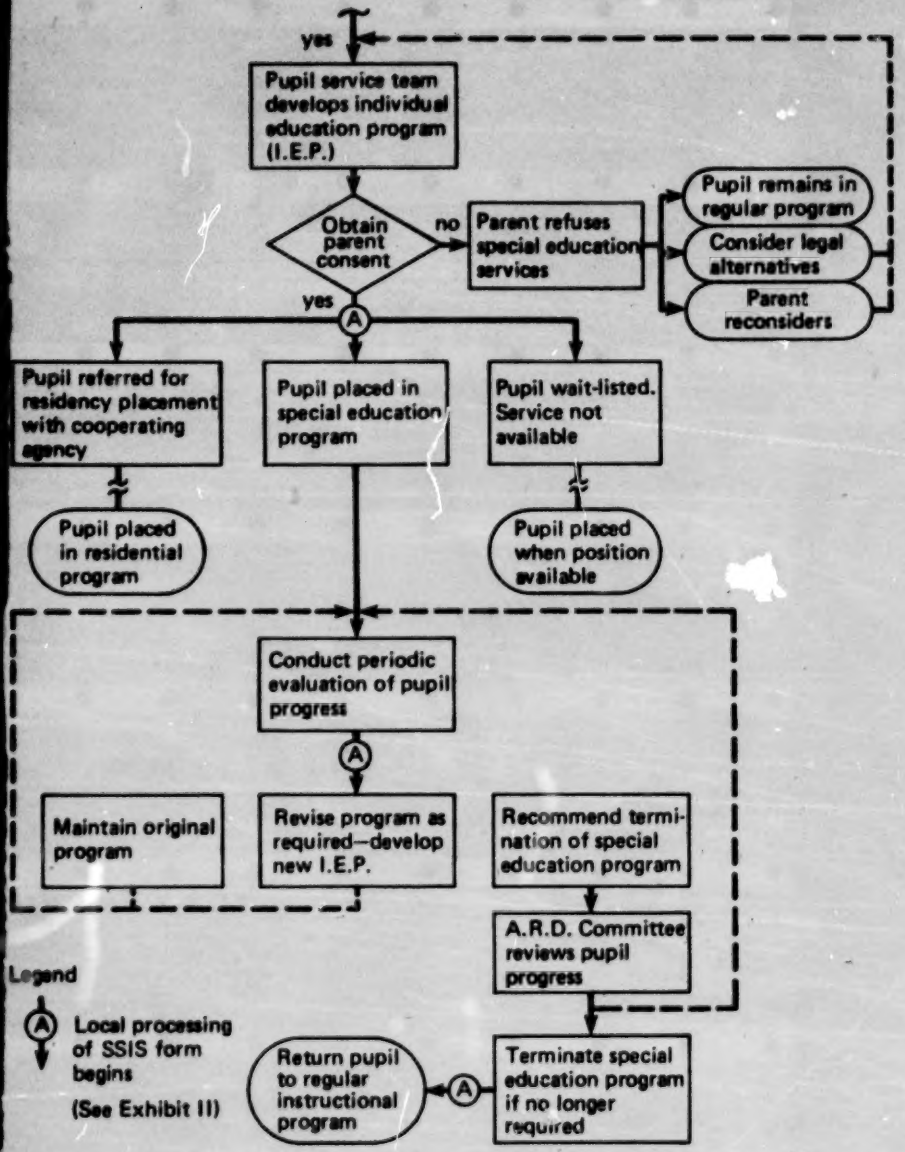
6. Principal discourages referral process
7. Review by principal is incomplete
8. Principal not qualified to make judgment

9. Referral material presented to parent poorly
10. Parent does not understand need for testing

11. Pupil service team not qualified, membership inappropriate

12. Diagnosis/evaluation utilize wrong instrumentation

13. Diagnosis/evaluation incomplete, not timely
14. Committee membership incomplete, not qualified
15. Committee does not meet as a group, no discussion
16. A.F.D. membership same as pupil service team
17. Local placement options emphasized
18. Too many/not enough service needs emphasized


yes
Pupil service team develops individual education program (I.E.P.)
Obtain parent consent
no
Parent refuses special education services
Pupil remains in regular program
Consider legal alternatives
Parent reconsiders
yes
A
Pupil referred for residency placement with cooperating agency
Pupil placed in special education program
Pupil wait-listed. Service not available
Pupil placed in residential program
Pupil placed when position available
Conduct periodic evaluation of pupil progress
A
Maintain original program
Revise program as required—develop new I.E.P.
Recommend termination of special education program
A.R.D. Committee reviews pupil progress
Legend
A Local processing of SSIS form begins
(See Exhibit II)
Return pupil to regular instructional program
A
Terminate special education program if no longer required

19. IEP not responsive to handicapping condition
20. IEP used locally available materials only

21. Parent not involved in placement decision process
22. Need for consent not adequately explained

23. New entry form not processed in timely manner

24. Pupil not placed according to IEP requirements
25. Wait-listed pupils "lost" in system
26. Time-lag too great, IEP needs revision
27. Wait-listed pupil placed inappropriately during interim

28. Follow-up not conducted with cooperating agency

29. Periodic evaluation inappropriate for IEP
30. Periodic evaluation not timely
31. Evaluation findings not provided to appropriate staff

32. IEP not revised/modified when necessary
33. Revisions not consistent with pupil service needs
34. Revisions not documented in pupil folder
35. Original IEP maintained longer than necessary

36. Pupil termination at convenience of district

37. Change entry form not processed in timely manner

Information in this specialized area is scarce and this document could serve as a helpful resource in developing IEPs for the orthopedically handicapped.

Atkins et al. (1977) at the University of Pittsburgh is developing a vocational teacher's "hands-on" instrument to measure entry and exit skills of the special education student and reports the following:

1. Development of a rationale and procedures for the design of the instruments

2. An entering instrument to diagnose auto mechanics skills

3. An exiting instrument to assess competency in food service skills (p. 1)

These instruments, and a description of the procedures for developing them, make significant contributions toward assisting with the development of the IEP by providing for evaluation of specific student skills. Developing and utilizing these types of assessment instruments are important to the vocational instructor in identifying for each special needs student the proper program entry point and employability exit point.

Responsibilities of secondary school administrators are addressed in a manual developed by the Southwest Regional Resource Center, Salt Lake City, Utah. Information is provided for planning the full spectrum of suitable services needed in educational programs for secondary level handicapped students. The manual is divided into four broad areas called "the four worlds": the operational world, the student world, the training world, and the work world (Moore and Engleman, 1977). Major functions and components are identified in each of the four worlds, the related statutes are cited, and recommended practices are detailed. Even though this administrator's manual does not include all the information required to serve the special needs student at the secondary level, it does suggest the scope of services that should be available, and indicates the interrelatedness of program elements.

Another project, sponsored by the Bureau of Education for the Handicapped, U.S. Office of Education, was funded for the specific purpose of identifying and clarifying perceptions related to roles in the IEP process. Project IEP--Wisconsin State Report reviewed the methods used to solicit information about the insights and perspectives of those directly affected by the IEP process. More than 100 people, including state and local education administrators, regular and special teachers, parents of handicapped children and the children themselves, support personnel, advocacy groups, union representatives, and others were interviewed. An information-gathering forum offered all participants an opportunity to clarify their concerns regarding implementation of IEPs within the state. A panel of twelve individuals with similar backgrounds to other forum participants listened to the information presented and made recommendations concerning priorities and suggestions for implementing IEP requirements (Norton, 1977). Norton concluded that "the comments suggest that successful implementation of the IEP is tied as much to people and their attitudes as to organizational or administrative realignments" (p. 30).

This observation is supported by experiences in implementing the Individualized Manpower Training System (IMTS) in 90 sites located primarily in Florida and South Carolina, with a few scattered in Alabama, Georgia, and California. These experiences established that people and their attitudes determine the degree of success of the IMTS.

Several individualized systems in Michigan that deal totally or in part with vocational education incorporate concepts and procedures applicable in the development of IEPs. Nee (1976) reports the following:

1. Personalized Education Programs (PEP) Utilizing Cognitive Mapping--Oakland Community College, Bloomfield Hills, Michigan

2. A Project for Alternative Learning Media (PALM) Selected Vocational Education Programs--St. Clair County Skill Center, Marysville, Michigan

3. Personalized System of Instruction (PSI) Approach to Vocational Education--Central Michigan University, Mt. Pleasant, Michigan

4. Agriculture and Natural Resources Education Institute Competency-Based Education Research Project--Michigan State University, East Lansing, Michigan

5. Individualized Instruction Computerized Management System--Capital Area Career Center, Mason, Michigan (pp. 7-12)

Another Michigan activity is described by Danford (1978). The Multiple Learning Strategies Project researched and defined learning profiles for educable mentally impaired, visually impaired, low reading, and regular vocational students. The findings were based on communication skills, attitudes toward self and others, knowledge level, and the cultural and social factors of each group. Through analysis of these profiles and a consideration of the decoding skills and most effective channels of communication required to elicit appropriate responses, the project defined the learning styles of each group.

These styles were matched with each vocational task to determine the most suitable strategies of communication for each group. Approximately 1300 instructional modules and audio-visual materials without sex-bias were produced. Environmental barriers to vocational education for physically handicapped students were identified and a means of analyzing required environmental modifications was developed. Field tests of the instructional materials developed in the areas of building maintenance, graphics, medical assistant, dietetic assistant, and small engine repair indicated that the materials significantly enhanced achievement of learning objectives for each group in the vocational student population.

The vocational education teacher is offered information about the diverse characteristics and special needs encountered in handicapped learners in a set of five self-instructional booklets, entitled "Another Step Forward." Titles of the individual booklets are: (1) Mainstreaming Handicapped Students into Regular Classrooms, (2) Characteristics of Handicapped Students, (3) A System of Management, (4) Evaluation and Placement, and (5) Architectural Considerations for a Barrier-Free Environment. These materials, which cover a broad range of topics, provide a mechanism for affecting positive changes in attitudes and procedures, changes that will move educators and administrators toward the integration of handicapped students into regular vocational education programs (Schwartz, 1978). Teachers of vocational education, having completed this series of booklets or having a similar knowledge base, will find their contribution to the IEP committee's work in development of the IEP greatly enhanced.

A project conducted by a Vocational-Technical Education Consortium of States (V-TECS) mounted a "feasibility study to determine the applicability of V-TECS materials for various target groups of handicapped learners" (V-TECS, 1976, p. ii). The project's final report stated that the use of V-TECS materials for handicapped were:

> (a) both practical and feasible, and (b) more effective (that is, yields more in-depth and useful information relative to needed modifications) when an assessment of the performance objectives, rather than just the tasks, is made. (p. 28)

One result of this project was a "procedure for conducting future studies and for coding performance objectives relative to applicability for various handicapped target groups" (p. 28). V-TECS now has a computer storage and retrieval system to facilitate the refinement, revision, and accessibility of the final catalogs of performance objectives and criterion-referenced measures. Although one might question the merit of coding performance objectives relative to applicability for various categories of handicapped conditions, the performance objectives and criterion-referenced measures are a valuable resource to IEP development. Performance guides are also available. The computer service and performance guides will also be invaluable to those developing and implementing IEPs in vocational education.

The preceding sources can assist vocational educators to meet the expectations and needs of all learners; however, they have been selected because of their special applicability to meeting the needs of handicapped learners as specifically required in the development of the IEP. It is acknowledged that recognizing problems and needs arising in developing the IEP for handicapped individuals in vocational education is quite simple compared to the task of finding solutions to the problems. The legislative mandate for IEP development has long-range implications for change in the delivery system of vocational education. Finding satisfactory ways to meet these needs and to solve the problems identified are the challenge for vocational education as well as all other educators in the 1980s as they take responsibility for providing free public education for all youth. Overcoming education and work obstacles has

now become the shared challenge of the individual, educators, and employers.

IEP-RELATED IMPLICATIONS FOR CHANGE IN THE VOCATIONAL EDUCATION DELIVERY SYSTEM

Flexible scheduling is an organizational function implied by the IEP requirement to provide a beginning and completion range of dates for each annual goal and short-term objective for each person. The scheduling approach most nearly addressing the need for the delivery system is called open entry/open exit. Under this concept, each individual is held accountable to the same competency level and must achieve objectives at his/her own rate of learning. The traditional approach of expecting all students to take the same amount of time to learn any given segment of a program is not compatible with the requirements of the IEP, which specify learning time to be based upon the individual's capabilities, needs, and motivations.

Performance of the individual is emphasized in the learning process and in the IEP development in terms of the individual's own learning patterns and growth, rather than grades based upon general comparison of the individual with his/her peers (competition). Competencies achieved have more meaning to a prospective employer, to the individual, and to the teacher, than a letter grade. Statements of achieved competencies communicate.

The IEP development process incorporates an emphasis on implementing individual counseling principles as a shared responsibility. Vocational educators now have the opportunity to become involved in counseling as an integral part of programming for instruction and learning in the development of the IEP.

IEP-related evaluation is scheduled on an individual basis. Ongoing evaluation in (a) the development of the IEP, (b) the assessment conference of the IEP committee required at the end of one year, and (c) the implementation of the written IEP (the instructional-learning process) must be established instead of the traditional concept of educational evaluation which involves assessment or measurement at the beginning and the end of a given section of a course or program.

Development of IEPs may occur during the school day, consequently, released time for teachers may be needed for their participation in the process. Substitutes may be necessary for teachers who are scheduled for IEP committee meetings during class sessions. The amount of released time required for vocational education teachers to assist in the development of the IEP will vary, depending upon restrictions of teacher contracts, on the use of teacher time, and upon the numbers of handicapped students which the teacher is instructing.

Cooperative planning for the individual student, instead of single teacher planning for teaching a group of students by establishing one set of goals

directed toward a so-called average level for the group, is at least implied for handicapped students. Of course, the impact and effectiveness of this approach in practice will depend upon the attitudes of those involved. Although the vocational educator comprises only one position within the IEP committee, he or she holds the key to effectiveness of the application of the IEP in vocational education. The attitude and commitment of the vocational education teacher toward implementing the IEP, as intended by P.L. 94-142 and its regulations, can certainly make a difference for the student. Understanding of the requirements and regulations, sensitivity to the needs of handicapped individuals, and commitment by administrators all contribute to the ultimate effectiveness of the IEP in the education of handicapped students.

All educators, including vocational educators, now have legal responsibility to provide free and appropriate public education for handicapped individuals. Prior to 1978, the responsibility was implied to be that of special educators, and even they were not directed to "seek out" handicapped persons. Historically, parents and/or medical doctors had determined whether a handicapped person was isolated in the society. Although leadership responsibility for carrying out the cooperative development of the IEP lies with the special educator and the local administrative representative, vocational educators must exercise leadership in making certain that they participate in the development of the IEP for their students.

Vocational educators must also take leadership in educating all school personnel, parents, and handicapped students regarding the accessibility of vocational education programs to handicapped individuals. Vocational educators can demonstrate by modeling and by example, the use of supportive services; adaptation of instructional materials, equipment and facilities; and the adjustment of work placement for handicapped individuals through specific examples. Vocational education research and development is in a key position to determine and to justify the right of handicapped individuals to have open access to vocational education programs, and to assess the impact of the IEP on the success of delivery of vocational education to handicapped persons.

Vocational educators can assist in disproving some of the myths associated with involvement of handicapped persons in vocational education and vocational education work-related activities in employment through their involvement in the IEP committee. Committee interaction provides a natural setting for consideration of "safety factors" related to specific types of dysfunctions. This avoids making the sweeping generalization that it is unsafe for handicapped persons to participate in vocational education and/or similar employment settings. Similarly, the IEP development process offers the opportunity to consider the employer or the individual.

Both preservice and inservice education of vocational educators must undergo considerable change, if vocational educators are to have the significant leadership roles implied by the development of the IEP. According to McKinney (1978), "Certainly preservice education of prospective vocational educators

falls short of meeting the immediate needs in the fields" (p. 11). Basic knowledge and understanding of the needs of handicapped persons and strategies and resources to meet those needs must become an integral part of vocational teacher preparation throughout all preservice and graduate level offerings. Specific awareness-sensitivity experiences should be included in the inservice education of vocational education teachers at the local district level. Emphasis must be given to;

1. The counseling responsibilities of the vocational education classroom instructor

2. The relationship of student assessment data to the development of annual goals and short-term objectives

3. An understanding of adaptation/modification of materials, equipment, and/or facilities to meet individual needs

4. Resourcefulness in focusing on individual capabilities instead of dysfunctions

5. Contributing in a cooperative role in the development of the IEP

Change in teacher preparation must be brought about through "broken front" approaches or through multiple pressures on multiple fronts for change. For example, parents must continue to press local school districts for open access to vocational education programs for their handicapped children. There is no better place to begin than in the IEP development. The school district in turn should (a) make this need known to universities and colleges preparing vocational education teachers, and (b) plan with staff, inservice programs to meet staff needs relative to participation in the development of the IEP. State department of vocational education personnel, in cooperation with state department of special education personnel and rehabilitation services commission personnel, must request legislators, state superintendents of instruction, boards of regents, state departments of higher education, state departments of labor, and others, as appropriate, to persuade colleges and universities to employ cooperative planning and implementation of vocational teacher preparation programs. Teacher education must serve the information, knowledge, and experience needs of prospective teachers relative to teaching handicapped individuals in vocational education. State departments of vocational and special education should also provide technical assistance and conduct regional/local inservice workshops for local district leadership personnel to develop understanding and expertise in the development of IEPs. Parents, educators, and the general public must educate and advocate for local district and higher education adjustments of vocational education delivery systems to facilitate accessibility and development of individualized education programs.

Shortages of support personnel and resources must be addressed by local district administrators. Hughes (1978) recommends that:

> Utilization of existing support personnel be increased and that additional support personnel be made available....Support personnel include classroom aides and specialists to work directly with the regular occupational education instructor, providing assistance directly in the classroom/shop/lab. (p. 9-10)

Also included are supportive services, such as psychological services, speech and hearing services, and vocational rehabilitation services. Many of the preceding changes have fiscal implications, either in terms of a need for additional fiscal resources or a redistribution of funds based upon review of priorities. Hughes suggests an increased emphasis on pooling of funding allocations among school districts for establishing cooperative programs and services.

There is a particular need to coordinate services among schools and community agencies. As more research information becomes available, required alterations and additional changes in the vocational education delivery system(s), as well as the extent of change, will become known and clarified.

ONGOING RESEARCH AND DEVELOPMENT PROJECTS RELATED TO SOME IEP IMPLICATIONS DESCRIBED

Research projects to assess the need for and barriers to "mainstreaming" handicapped students into regular vocational education programs are being supported by the U.S. Office of Education, Department of Health, Education and Welfare, under the Vocational Education Act of 1963, as amended in 1968 and 1976. Other projects, also being supported under this act, involve the development of criteria for the identification of various types of handicaps. These projects have already produced significant information that is forming the basis for planning and operating vocational programs for the special needs students. Unfortunately, research is just beginning to uncover that which is needed to effectively develop and implement IEPs.

Some projects presently underway will furnish additional information that will strengthen the range and quality of vocational programs. Sellers and Gordon (1978) furnish reports of a number of current projects. For example, one study, "Assess Strategies for Handicapped in Vocational Education," at Texas A and M University, will establish competencies for successful entry into selected occupations in the areas of agriculture, home economics, and trade and industry. The resulting materials will assist administrators and teachers in serving individuals with special needs through an open-entry, open-exit model.

At the University of Wisconsin-Madison, Tindall et al. are in the process of developing an inservice training model for modifying vocational programs.

Another project "A Curriculum Management System for Instructing the Handicapped (Project HIRE)," at Boston University, plans to use teams of vocational

education and special education personnel directed by university specialists in the planning, development, and testing of curriculum and instructional resource materials that can be used to supplement regular vocational programs. The strategies and standards resulting from this project will be a part of a curriculum management system that can be used as a model.

An effort to improve the cost-effectiveness of inservice training of special needs teachers is also underway. "Development and Implementation of an Innovative Program of Vocational Special Needs Teacher Preparation," at the University of Idaho, is a project to develop two courses entitled "Identification of Vocational Needs Students" and "Vocational Special Needs Methods." The six vocational teachers who participate in the eight-week session will later offer the courses to teachers in their respective schools. The cost-effectiveness of this inservice delivery system is presently being compared to the cost-effectiveness of the itinerant teacher training system which was utilized prior to this project year.

The American Institutes for Research in Palo Alto, CA is developing workshop materials for vocational administrators responsible for "mainstreaming" students with special needs. These materials will be concerned with the primary areas that administrators must consider in serving the handicapped students.

The findings of these ongoing projects may only begin to reveal what is required to provide effective vocational delivery systems and instructional materials for handicapped students, and for the teachers and administrators responsible for preparing IEPs in vocational education for them. Perhaps a more significant consequence to be expected will be the "opening of minds," change of attitudes and behaviors, creation of awareness of needs of handicapped persons, and an extension of the knowledge base among the various participants in the development of IEPs.

UTILIZATION REQUIREMENTS FOR DEVELOPING THE IEP

Both effective and ineffective experiences in developing and implementing IEPs should be shared with others in order to eliminate the duplication of trial and error. This requires applications, interpretations, translations, dissemination of research studies, preservice and inservice training workshops and teacher education courses, and courses that will assure proper development and utilization of vocational delivery systems and instructional materials.

Vocational teachers must develop the competencies of several roles if they are to provide quality services to handicapped students. Rosenberg and Nathanson (1978) reported the development of a model training program that combines vocational/special education competencies needed for training handicapped people in vocational skills: "The purpose of the program is to equip the professionals, who provide services for the handicapped, for the following roles: instructor, diagnostician, prescriptive behavior manager, advocate, referral agent, and counselor" (p. 30).

As teachers assume these roles, they should have access to resources that include available instructional materials and procedures appropriate to individual special needs. Research, staff training, and dissemination efforts are important activities that should be given priority in planning for the development of IEPs.

SUMMARY AND CONCLUSIONS

The primary goal of this document is to assist local vocational education personnel in serving individuals with special needs according to the requirements of several laws, especially P.L. 94-142. Specifically, the preceding material has focused on the following considerations:

1. A definition of the IEP describing the elements and the criteria used to judge its adequacy

2. A general description of procedures used to identify needs through an exploratory and diagnostic process, and an analysis of the diagnostic data results in relationship to an individual's career goals

3. A discussion of prescribed components and requirements for developing an IEP for vocational education students

4. An examination of procedural plans, such as scheduling, managing, and evaluating, in the development of the IEP

5. A review of results from the IEP development process and the significance of ongoing research projects related to problems and needs of providing free, appropriate public education for the handicapped

6. A discussion of past, present, and future implications for changes in vocational delivery systems

7. A review of current IEP-related research and development projects

8. An examination of utilization requirements, including staff training, research, and dissemination activities, for the development and implementation of IEPs

9. A review of critical issues concerning IEPs in vocational education for handicapped students

In order for handicapped individuals selecting vocational education programs to receive the benefits of IEPs, vocational educators need specialized information, knowledge, and understanding pertaining to the following considerations:

1. Handicapping conditions and capabilities

2. Instruments and methods for diagnosing, prescribing, managing, and evaluating

3. Appropriate instructional materials for different learning styles and individual handicapping needs

4. Administrative procedures for planning and coordinating programs with other cooperating agencies

5. Monitoring, evaluating, reporting, and communicating with students and parents involved

Previous and current research will provide some basis for administrators to plan and establish vocational education programs for development of IEPs. Unfortunately, these program may lack competent staff proficient in all the skills and knowledge required. Untrained, uncommitted teachers and administrators who have failed to accept the responsibilities of the various roles involved in developing and implementing an IEP form barriers to effective operation. The lack of time and money needed to serve the handicapped is a critical issue that will not be settled quickly or soon, but alternative measures can produce IEPs that have some credibility. If IEP accountability is to become a reality, changes in the vocational education delivery system must be examined empirically.

The research literature supports the fact that there are no simple answers to the complex problems facing educators who are responsible for developing the IEP. There are, however, significant findings and developments that suggest certain recommendations for local, state, and federal agencies. It is in that context that the following recommendations are offered.

RECOMMENDATIONS

Any public agency that has the responsibility of formulating policies and/or serving the handicapped student is obligated by law to develop an IEP. For this reason, the following guidelines are offered for successful development of the IEP for handicapped persons in vocational education:

1. Select as vocational education staff menbers persons who are committed to serving handicapped students, and who are willing to learn how to develop and implement IEPs.

2. Review listings of recommended assessment instruments and activities and select those that can appropriately identify vocational education needs according to the student's career goals.

3. Establish exploratory work sample evaluation and occupational information experiences and programs that provide "hands-on" activities and information

to assist the student in selecting realistic career goals.

4. Analyze and list the prerequisite academic, prevocational, and vocational skills and knowledge required by students for different vocational courses.

5. Review available instructional materials; select and/or adapt those that are needed by students with different learning styles and different handicaps, and suggest them as appropriate in the development of IEP short-term objectives.

6. Review various course-specific instructional materials for vocational education offerings; select those suitable for students with different capabilities and dysfunctions.

7. Analyze the learning environments in terms of the participating requirements, and modify equipment, materials, and facilities where needed to accommodate the various handicaps.

8. Arrange for pre- and inservice staff training that will provide the adequate skills, knowledge, and attitudes necessary to develop and implement the IEP.

9. Consider the handicapping conditions and numbers of students involved as planning and assigning of support staff, such as aides, are completed. Be sure that the ratio of staff members to students is adequate. A ratio of 1:15 in a regular program and a ratio of 1:5 for severely handicapped persons are considered acceptable.

10. Design an initial IEP form that includes space for personal and initial diagnostic information, goals and objectives sections, estimated time allotment for the achievement of the goals and objectives, specific educational and support services, names of persons responsible for the development of the IEP, percent of time, beginning and ending dates for short-term objectives, review dates, names of IEP team members, date of IEP team meetings, and criteria for evaluating achievement of annual goals.

11. Refine the IEP on a supplementary form by indicating the specific steps that will be taken to provide the instructional services outlined in the IEP. The implementer, the vocational education teacher receiving the handicapped student, should be responsible for this. Task analyses, stated objectives, criteria for mastery of each objective, learning strategies and/or techniques, instructional materials and equipment, starting and ending date for each objective, and any other pertinent information should be specified in the IEP.

12. Establish central files for storing the initial diagnostic information in order that personnel may review the information concerning necessary changes in the prescriptions. As a student completes the given prescription successfully, the prescription with the formative and evaluative data should be placed in the central file.

13. Store IEPs undergoing implementation with the vocational instructor until the student completes the program or is terminated for other reasons.

14. Install ongoing evaluation procedures to provide daily, weekly, monthly, and annual feedback relative to student progress, staff activities, and system efficiency. This feedback should enhance management decisions and action which can be utilized in correcting and/or solving problems.

15. Establish contingency management techniques that will reinforce effective learning and motivate students to increase their performance rate.

16. Include vocational teachers on the IEP development team and schedule adequate time for them to meet with the other team members.

17. Provide skills or resource personnel for developing the required materials needed to accommodate the special needs of individuals if appropriate instructional instruments are not available.

18. Provide individualized instructional program resources in suitable instructional media modes for reading, language, arithmetic, and living skills development at different grade levels.

19. Establish work sample type training for prevocational or related exploratory instruction that uses "hands-on" activities utilizing simulators and/or the real world tools and equipment.

20. Develop/prescribe criterion-referenced performance tests to determine the skills and knowledge needed.

21. Observe student behaviors to identify work habits and to obtain an indication of attitudes that need to be improved.

22. Prescribe positive behavioral change approaches, utilizing individual and group counseling processes.

23. Develop combined resource programs of two or more school districts when school enrollments are small and/or sufficient fiscal resources are not available to provide adequate services.

24. Record all efforts to assist each individual in achieving the stated IEP goals and objectives. These accountability records will be helpful in the event parents complain, or due process procedures are invoked.

25. Provide training for parents, as feasible, in order that they will be able to understand the terminology and procedures used by the team in developing and implementing the IEP.

26. Develop activity checklists for developing, implementing, monitoring, and evaluating the IEP. Each activity should be checked as it is completed by the team or by individual members of the team.

27. Prepare progress reports for the student and parents at regular intervals, such as at the end of a quarter. This student progress should be compared regularly to the objectives established in the IEP development.

28. Monitor all record-keeping procedures, such as where data are stored, whether goals and short-term objectives are met, and whether changes in the IEP should be or have been made.

29. Convene the IEP committee at least once a year with team members to conduct a summative evaluation to consider the student's progress in terms of goal statements; the student's projected schedule to exit to another program; and any necessary adjustments. The team's efficiency in developing and implementing the IEP should be considered and ways to improve future functioning should be noted.

30. Obtain parental consent for any major program changes that result from the annual evaluation.

31. Give consideration to participation in an in-depth research project in which effects of IEPs are empirically tested by accepted research techniques.

32. Keep detailed records of expenditures for services to the handicapped students in order to determine the excess cost in providing the services in regular vocational education programs.

33. Support the development of instructional modules which are appropriate to different learning styles and various types of handicapping needs of individuals.

If adopted, these recommendations can lead to effective development of the IEP for handicapped students in vocational education--students who require and are entitled to special consideration. It is this consideration that can change lives.

APPENDIX A

Individualized Education Plan and Progress Chart

By Luretha F. Lucky, *A Model for Training Pre-Service Teachers to Develop Individualized Education Plans,* paper presented at the Annual International Convention, The Council for Exceptional Children, Kansas City, 1978, pp. 20, 21, 22.

FORM D
PRE-SERVICE TRAINING MODEL

INDIVIDUALIZED EDUCATION PLAN AND PROGRESS CHART

Student's Name: _____ Age: _____ Date Entered Class: _____
School: _____ Date of Assessment: _____
Parents or Guardian: _____ Major Deficit Area: _____
Teacher: _____ Type of Handicap: _____
Principal: _____ Subject: _____
Level of Function: _____

Assessment Summary: _____ Long Range Goals: _____

INSTRUCTIONAL OBJECTIVES (Short Term Goals)	Date Instruction Begins	Date Objective Mastered	Suggested Materials	Procedures Outline	Evaluation Techniques	Comments, etc.	Recommendations, progress modifications, additional services,
1.							
2.							
3.							
4.							
5.							
6.							
7.							

8.						
9.						
10.						
11.						
12.						

Code: ■ Completely Mastered the Objective ▣ Objective Mastered at 50% Criterion Level ☑ Attempted the Objective ☐ No attempt to do the Objective

| Date: | | | | | |

APPENDIX B

Vocational Education: A Sample Individualized Education Program

By Barton B. Proger and others, *IEP Handbook: A Teacher Manual for the Implementation of Public Law 94-142.* Blue Bell, Pennsylvania: Montgomery County, Intermediate Unit 23, 1978, pp. 94-101, 155, 178.

VOCATIONAL EDUCATION

If a special education student is receiving vocational training at one of the area Vocational Technical Schools, the nature of his/her program must be considered before it is included in the I E P If the program is essentially unmodified in any way, annual goals and short-term objectives are not required but a statement of integration should be included to reflect this participation.

If, however, a special education student is receiving vocational training at one of the area Vocational Technical Schools, and the program has been modified in some way to meet his/her individual learning needs, this should be listed under his/her primary assignment with documentation of goals and objectives for the courses he/she is taking. In this case, a Vocational Technical School representative must be invited to participate in the I E P Planning Meeting. At that meeting, the parent may request modifications as long as the modifications are a part of the available programs.

If a special education student is participating in a work study or job placement program, this should be included under primary assignment in the statement of integration.

VOCATIONAL EDUCATION

1. If an exceptional student goes to Vocational Technical School and the program is essentially unmodified in any way, is an IEP necessary?

   Annual goals or short-term objectives would not be necessary but a statement of integration should be included under primary assignment.

2. Who will write IEP s for students in Vocational Technical School when the Vocational Technical program is modified? Is it the job of the Vocational Technical teacher or will the classroom teacher write it and send it to the Vocational Technical Center?

   A Vocational Technical School representative must be invited to assist the writing efforts at the IEP planning meeting.

3. How is work study being included in the IEP?

   Work study should be included in the statement of integration as part of primary assignment.

4. How are job placement programs being handled?

   Job placement should be included in the statement of integration as part of primary assignment.

SAMPLE

INDIVIDUALIZED EDUCATION PROGRAM (IEP)

SCHOOL DISTRICT OF RESIDENCE Jackson School District

Student's Name: Tom Turbo

Birthdate: 2/14/60

Participants in IEP Development & Writing:

Name	Title
Mr. Turbo	Parent
Mr. Jones	LEA Representative
Mr. Lavelle	vocational technical Consultant
Ms. Smith	Teacher

Current Assignment: 11th Grade

Date Written: 3/6/78

Date of Annual Review: 3/6/79

Operating Agent: Jackson School District

Person responsible for Implementation of Program: Mr. Jones

Date of IEP Planning Meeting: 3/1/78

PRIMARY ASSIGNMENT AND STATEMENT OF INTEGRATION:	DATE OF INITIATION	EXPECTED DURATION OF SERVICES
Regular class and Vocational Technical school program 11th grade with Learning Disabilities. Resource room instruction in reading and math.	3/78	ongoing

RELATED SERVICES:	DATE OF INITIATION	EXPECTED DURATION OF SERVICES
Bus Transportation	3/78	ongoing
Physical Education	3/78	ongoing

SPECIAL MEDIA OR MATERIALS: _____

Copies to:
- Teacher (Original)
- Parent
- Operating Agent
- District of Residence

(AID:mlm - Form 13A - Rev. 11/30/77)

STUDENT NAME Tom Turbo

DATE IEP WRITTEN 3/6/78

PRESENT EDUCATION LEVELS

Describe the student's present educational levels (educational strengths/weaknesses) in appropriate curricular areas. These may include, but are not limited to, academic achievement; vocational skills; self-help skills; social adaptation; emotional maturity; motor skills; hearing functioning; visual functioning (orientation and mobility); and speech/language skills. When appropriate, indicate the name of the test/instrument used, and the date of testing.

As reflected on an Informal Reading Inventory Tom is reading at an independent level of 6th grade, an instructional level of 6th grade, and a frustration level of 7th grade. Results show Tom's word attack skills to be strong, he has a strong foundation of all consonants, consonant blends, vowels and vowel diagraphs. Tom also shows strength in locating the facts. His weak areas in comprehension are getting the main idea, drawing conclusions, and following directions.

Results on the Key Math show Tom working on a 4th grade math level. He has a firm foundation of basic facts in addition, subtraction, and multiplication. Weak areas include division, measurement, fraction, money, word problems, and decimals.

Results on the Prognostic Test of Mechanical Abilities show Tom's strengths in addition, subtraction, and multiplication. He also could identify whole inch measurement, and tools. Weaknesses were shown in identifying the tools function, numerous problems were also shown in spatial relationships.

STUDENT NAME Tom Turbo

DATE IEP WRITTEN 3/6/78

INSTRUCTIONAL AREAS AND ANNUAL GOALS	SHORT TERM OBJECTIVES AND EVALUATION PROCEDURES (INCLUDE TERMINAL BEHAVIOR, CONDITIONS, AND CRITERIA)
Tom will increase his knowledge of content areas in math.	1. Given a ruler Tom will be able to identify 1/8, 1/4, and 1/2 inch gradients with 80% accuracy. 2. Using a ruler, Tom will be able to measure lengths to the nearest 1/2, 1/4, and 1/8 inch with 80% accuracy. 3. Given a variety of shapes, Tom will be able to identify fractional parts with 85% accuracy. 4. Using a visual aid, Tom will be able to convert fractions to decimals and decimals to fractions with 95% accuracy.

STUDENT NAME Tom Turbo

DATE IEP WRITTEN 3/6/78

INSTRUCTIONAL AREAS AND ANNUAL GOALS	SHORT TERM OBJECTIVES AND EVALUATION PROCEDURES (INCLUDE TERMINAL BEHAVIOR, CONDITIONS, AND CRITERIA)
Tom will increase his computational skills in math.	1. Given 20 problems, Tom will be able to multiply a two-digit number by a two-digit number with 75% accuracy. 2. During a math period, Tom will recall the basic division facts for zero to nine tables with 100% accuracy.

STUDENT NAME Tom Turbo

DATE IEP WRITTEN 3/6/78

INSTRUCTIONAL AREAS AND ANNUAL GOALS	SHORT TERM OBJECTIVES AND EVALUATION PROCEDURES (INCLUDE TERMINAL BEHAVIOR, CONDITIONS, AND CRITERIA)
Tom will increase his application skills in math.	1. When given a specific amount of money, Tom will be able to buy an object and determine the correct amount of change with 90% accuracy. 2. During a math period, Tom will be able to compute the value of certain objects and determine the correct amount of money necessary to buy these objects with 95% accuracy. 3. During a math period, Tom will be able to solve any word problem using the appropriate operation with 80% accuracy.

STUDENT NAME Tom Turbo

DATE IEP WRITTEN 3/6/78

INSTRUCTIONAL AREAS AND ANNUAL GOALS	SHORT TERM OBJECTIVES AND EVALUATION PROCEDURES (INCLUDE TERMINAL BEHAVIOR, CONDITIONS AND CRITERIA)
Vocational Reading Tom will progress in reading level from that point at which his proficiency has been demonstrated.	1. Given textbooks and related materials, Tom will work to improve skills in which he has demonstrated deficiencies as measured by day to day classwork and informal reading inventories. He will use materials that are appropriate to his expressed areas of interest and needs as determined by interest inventories, by standardized tests and informal reading inventories.

STUDENT NAME Tom Turbo

DATE IEP WRITTEN 3/6/78

INSTRUCTIONAL AREAS AND ANNUAL GOALS	SHORT TERM OBJECTIVES AND EVALUATION PROCEDURES (INCLUDE TERMINAL BEHAVIOR, CONDITIONS, AND CRITERIA)
Machine Shop Tom will learn to set up and operate a variety of machine tools.	Contingent upon the level of understanding of the material presented to Tom and as a supplemental individual aid to the presentation of work done by him; specialized help will be provided by the in-house special education department personnel. Using the textbook and shop equipment, Tom will be able to perform and/or understand the following operations correctly as judged by the teacher. 1. Lathe Operation a. Facing b. Turning c. Boring d. Threading 2. Drill Press Operation a. Layout b. Center Drilling c. Counter Boring d. Tap Alignment 3. Floor Grinder a. Lathe Tool Bit Grinding b. Drill Bit Grinding 4. Milling Machine a. Plane Milling b. Angular Milling c. Simple Indexing 5. Horizontal and Vertical Bandsaw a. Cut Off Stock b. Contour Cutting to Specifications 6. Bench Work a. Filing b. Tapping c. Layout d. Polishing

APPENDIX C

Individualized Education Program: Sample Form

By Colleen S. Blankenship, *Illinois Interim Resource Manual for Preparing Individualized Educational Programs.* Springfield: Illinois State Department of Education, 1977, pp. 37-40.

IEP
Sample Form

Instructional Area: Speech and Language — Student's Name: Todd Wilson

Goal Statement: Todd will be able to use the /s/, /r/, and /g/ sounds of letters in the initial, medial, and final position within words — Implementor's Name: Harriet Howe (Speech therapist)

SHORT-TERM INSTRUCTIONAL OBJECTIVES

Condition	Behavior	Criteria	Special Skills & Materials	Evaluation/Schedule	Date Objective Mastered
1	1 Child reads aloud	1 90-100% for 1 session		Direct classroom work assessed via instructional objectives	
2	2a Child can discriminate between correct and final 1 sound b Child reads aloud	2			
3	1 Child reads aloud	3 90-100% for 1 session			
4	4 Student applies lesson 1 sound	4			
5	5 Says sound in syllables	5			
6	6 Says initial sound in words	6 90-100% for 2 sessions			
7	7 Says sound in sounds, in sentences	7 90-100% in 2 sessions			
8	8 Is same behavior for final 1 sound	8 Is same criteria for final 1 sound			
9	9 Is same behavior and criteria for the twelve 1 sounds				
10	10 Is same conditions, behavior, and criteria for the twelve 1 sounds				
FINAL PHRASE IN THE TABLE					
11	11 Child given list of words, of the short vowel sounds represents	11 100% correct in 2 sessions			
12	12 Child articulates correctly the directed sounds in nonsense speech	12			

(a)

INDIVIDUALIZED EDUCATION PROGRAM
Sample Form

Student's Name: Paul Hawk — Initial Planning Conference Date: 9/77

IEP Manager's Name: Tim Jones (Case Coordinator) — Date for Review/Revision: 9/78

PRESENT LEVELS OF PERFORMANCE

Academics: Reading — 3.0 (Spache) Informal reading assessment shows that he reads slowly and comprehends less than 60% of what he reads
Arithmetic — 4.0 (Stanford Achievement Test, needs fractional arithmetic skills

Speech/Language: Pronounces — daily consonants are legible
Screening revealed no difficulties

Motor: No particular problems

Social Behavior: Talks out, frequently out of seat, doesn't complete tasks

Prevocational/Vocational: Completes morning tasks, can assemble machine parts, uses basic tools appropriately, shows interest in other tasks, e.g. does machine cleaning, etc

Self-Help: Not applicable

Extent of Participation in Regular Education: Physical education, music, health, general work

Type of Physical Education Program: Standard Program

SERVICES TO BE PROVIDED FOR CURRENT YEAR

Type	Initiation Date	No. Minutes Per Week	No. Weeks
Res	9/77	200	40

Placement: High school special class — needs required

Justification for Placement: Needs to improve basic skills, social behavior, and to acquire more marketable skills

(f)

IEP
Sample Form

Instructional Area: Academics — Student's Name: Paul Hawk

Goal Statement: Paul will read fluently on the 4th grade level with at least 90% comprehension — Implementor's Name: Lois Brown (Classroom Teacher)

SHORT-TERM INSTRUCTIONAL OBJECTIVES

Condition	Behavior	Criteria	Special Skills & Materials	Evaluation/Schedule	Date Objective Mastered
1 200 word passage 3-0 reader	a orally read b answer 10 written comprehension questions	a 90 wpm correct, 5 or fewer errors for 1 week b 70% comprehension rate for 1 week		Direct classroom assessment after daily oral reading observation for reporting period	
2 200 word passage from 3-1 reader	a same as above b	a 75 wpm correct, 5 or fewer errors for 1 week b 90% comprehension rate for 1 week			

(g)

IEP
Sample Form

Instructional Area: [illegible] Student's Name: [illegible]

Goal Statement: [illegible] Implementer's Name: [illegible]

SHORT TERM INSTRUCTIONAL OBJECTIVES

Condition	Behavior	Criteria	Special Media & Materials	Evaluation/Schedule	Date Objective Mastered
1 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
2 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
3 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
4 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	

(a)

IEP
Sample Form

Instructional Area: [illegible] Student's Name: [illegible]

Goal Statement: [illegible] Implementer's Name: [illegible]

SHORT TERM INSTRUCTIONAL OBJECTIVES

Condition	Behavior	Criteria	Special Media & Materials	Evaluation/Schedule	Date Objective Mastered
1 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
2 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
3 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	

(b)

IEP
Sample Form

Instructional Area: [illegible] Student's Name: [illegible]

Goal Statement: [illegible] Implementer's Name: [illegible]

SHORT TERM INSTRUCTIONAL OBJECTIVES

Condition	Behavior	Criteria	Special Media & Materials	Evaluation/Schedule	Date Objective Mastered
1 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
2 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
3 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
4 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
5 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
6 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
7 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
8 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
9 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
10 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	

(c)

IEP
Sample Form

Instructional Area: [illegible] Student's Name: [illegible]

Goal Statement: [illegible] Implementer's Name: [illegible]

SHORT TERM INSTRUCTIONAL OBJECTIVES

Condition	Behavior	Criteria	Special Media & Materials	Evaluation/Schedule	Date Objective Mastered
1 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
2 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
3 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	

(d)

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